



Trichloroethylene (TCE)

Office of Land Quality – Science Services Branch

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Description:

Trichloroethylene (TCE) is a chemical (chlorinated solvent) used in metal cleaning, vapor degreasing operations, and spot cleaning at dry cleaners. It was formerly used in hospitals and in food production. Common household products like fabric cleaners, adhesives, paint removers, and gun cleaners may contain TCE.

Potential Sources:

TCE from a spill or leak can move through the soil and mix with groundwater, contaminating the water that people use.

- TCE can evaporate from soil and groundwater, and the gas (vapor) can then get into buildings by moving through soil, or even inside sewer lines. This movement is known as vapor intrusion.
- Even with special equipment, it can be difficult for environmental professionals to figure out if TCE in the indoor air are from vapor intrusion, or if they are from our everyday product use.

Routes of Exposure and Potential Health Impacts:

- You can be exposed to TCE in two different ways:
 - Drinking water that contains TCE; and
 - Breathing air that contains TCE gas.
- The U. S. EPA classifies TCE as “likely carcinogenic to humans.”
- Potential health effects from TCE depend on how much, how long, how often, and in what way(s) you are exposed.
- Young children, the elderly, and people with on-going health concerns may be more at risk for negative health effects.
- Breathing and/or drinking high levels of TCE can cause health effects other than cancer. Please contact the Center for Disease Control’s (CDC) Agency for Toxic Substances and Disease Registry (ATSDR) for additional information on TCE’s potential health impacts, or visit their website (see below).

Reduce Exposure:

There are things you may be able to do to reduce your exposure to TCE:

- If you use a private well for your home water supply, have the water tested regularly to make sure it is safe to drink. While IDEM does not regulate private water wells, information is available on testing and health-based recommendations (see below).
- Follow the label instructions when you use and get rid of products containing TCE.
- Choose products that are TCE-“free”
- Choose a dry cleaning business that uses “green” cleaners instead of chlorinated solvents like TCE.
- If you choose to go with a dry cleaner that uses TCE, consider leaving your clothes in a sheltered outdoor area for a few hours when you bring clothes home from the dry cleaners. This allows them to release small amounts of TCE into the outdoor air rather than into the air inside your home.

IDEM’s Role and Responsibility:

- The Indiana Department of Environmental Management (IDEM) is responsible for protecting public health and the environment while providing for safe industrial, agricultural, commercial, and governmental operations vital to a prosperous economy.

- IDEM's Office of Water Quality enforces the federal limit on how much TCE is allowed in our drinking water supplied by cities or companies.
- IDEM Fact Sheet TR0316L - 0818 Trichloroethylene (TCE) 2 of 2
- IDEM's Office of Air Quality regulates the amount of TCE that businesses can release into the outdoor air.
- IDEM's Office of Land Quality (OLQ) regulates TCE disposal and the potential cleanup of spills.
- IDEM OLQ provides cleanup recommendations for TCE and other chlorinated solvents based on potential health effects (see below).
- IDEM OLQ works with the United States Environmental Protection Agency (U.S. EPA) to make sure that people are following the rules for TCE use, and that they collect groundwater samples when they are cleaning up TCE.

Additional Information:

- For more information on TCE, please visit the ATSDR website at www.atsdr.cdc.gov/toxfaqs/TF.asp?id=172&tid=30.
- Alternatively, you can call the CDC-INFO line for ATSDR's information on TCE: 800-232-4636 (M-F 8a-8p Eastern in English or Spanish) or TTY 888-232-6348.
- For more information on vapor intrusion please visit IDEM's website at www.idem.IN.gov/cleanups/2357.htm.
- IDEM does not regulate private wells. However, if you use a private well, it is still important to be aware of health-based recommendations: www.idem.IN.gov/cleanwater/2452.htm.
- For more information on certified laboratories, please visit the Indiana State Department of Health's website at www.isdh.IN.gov/24859.htm.
- Visit the Indiana State Department of Health's Environmental Public Health Division's Indoor Air Quality program for more information on indoor air at www.isdh.IN.gov/24347.htm.
- For questions and concerns about TCE contamination or environmental cleanup, contact IDEM's Office of Land Quality at (317) 232-3215 or (800) 451-6027, ext. 2-3215.
- To report an accidental release or spill, call IDEM's 24-Hour Spill Line at (888) 233-7745 (toll free).